

Contract Operated Systems

**The Town of East Spencer** (ID# 01-80-060) purchases water from Salisbury-Rowan Utilities. SRU operates and monitors this system as well. Locations in the distribution system were tested monthly for coliform bacteria. All results for 2013 were negative. Contaminants that were detected between January 1 and December 31, 2013 are listed below:

Constituent & Unit Source	Violation	MCLG	MCL	Result	Potential Source
Total THM, ug/l	No	80	80	50.0 average	By product of drinking water chlorination. Results in the system ranged from 25-83 ug/l.
Total HAA5, ug/l	No	60	60	25.4 average	By product of drinking water chlorination. Results in the system ranged from 23.8-28.6 ug/l.

The fourth quarter of 2013, East Spencer started monitoring under the Stage 2 Disinfection By-Product Rule, replacing the previous Stage 1 Disinfection By-Product Rule. The rule no longer requires a running annual average of all THM/HAA values, but a locational running annual average of these values. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Constituent & Unit Source	Violation	MCLG	MCL	Result	Potential Source
Lead, ug/l*	No	0	AL=15	< 0.003 mg/l	Corrosion of household plumbing systems; erosion of natural deposits. 100% were below the action level of 15 ug/l
Copper, mg/l*	No	1.3	AL=1.3	< 0.05 mg/l	Corrosion of household plumbing systems; erosion of natural deposits; 100% were below the action level of 1.3 mg/l

\*From June to September of 2013, homes in East Spencer built between 1982 & 1986 were sampled for lead due to the likelihood of the use of lead solder in pipes. Based on the analytical results collected during this sampling period, zero of the total ten homes tested exceeded the 90th Percentile Lead Action Level (15 ug/l). Lead usually enters drinking water as a result of corrosion — the wearing away of materials containing lead in a water distribution system or household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome plated brass faucets, and in some cases, pipes made of lead that connect homes and businesses to the water main (service lines).

**The Town of China Grove** (ID# 01-80-040) purchases water from Salisbury-Rowan Utilities. SRU operates and monitors this system as well. Locations in the distribution system were tested monthly for coliform bacteria. All results for 2013 were negative. Contaminants that were detected between January 1and December 31, 2013 are listed below:

Constituent & Unit Source	Violation	MCLG	MCL	Result	Potential Source
Total THM, ug/l	No	80	80	44.4 average	By product of drinking water chlorination. Results in the system Ranged from 13-76 ug/l.
Total HAA5, ug/l	No	60	60	21.4 average	By product of drinking water chlorination. Results in the system Ranged from 8.0-29.9 ug/l.

The fourth quarter of 2013, China Grove started monitoring under the Stage 2 Disinfection By-Product Rule, replacing the previous Stage 1 Disinfection By-Product Rule. The rule no longer requires a running annual average of all THM/HAA values, but a locational running annual average of these values.

Constituent & Unit Source	Violation	MCLG	MCL	Result	Potential Source
Lead, ug/l*	No	0	AL=15	< 0.003 mg/l	Corrosion of household plumbing systems; erosion of natural deposits. 100% were below the action level of 15 ug/l
Copper, mg/l*	No	1.3	AL=1.3	0.203 mg/l	Corrosion of household plumbing systems; erosion of natural deposits; 100% were below the action level of 1.3 mg/l

\*From June to September of 2013, 20 homes in China Grove were sampled for lead due to the likelihood of the use of lead solder in pipes. Based on the analytical results collected during this sampling period, zero of the twenty homes tested exceeded the 90th Percentile Lead Action Level (15 ug/l). Lead usually enters drinking water as a result of corrosion — the wearing away of materials containing lead in a water distribution system or household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome plated brass faucets, and in some cases, pipes made of lead that connect homes and businesses to the water main (service lines).

Well No. 3 (PO1)

Constituent & Unit Source	Violation	MCLG	MCL	Result	Potential Source
Dalapon*,mg/l	No	0.2	0.2	<0.001	Runoff from herbicide used on rights of way
Fluoride, mg/l	No	4.0	4.0	0.673	Erosion of natural deposits
Sodium, mg/l	No	n/a	n/a	6.89	Erosion of natural deposits
Sulfate,mg/l	No	250.0	250.0	19.5	Erosion of natural deposits
Combined Radium(226&228),pCi/l	No	0	5.0	3.0	Erosion of natural deposits
Combined Uranium,pCi/l	No	0	30	2.7	Erosion of natural deposits

\*Sampled in 1st quarter 2012; Granted Triennial Monitoring 2/22/12.

Well No. 7 (PO4)

Constituent & Unit Source	Violation	MCLG	MCL	Result	Potential Source
Fluoride, mg/l	No	4.0	4.0	0.154	Erosion of natural deposits
Iron, mg/l	No	0.3	0.3	0.373	Erosion of natural deposits
Sodium, mg/l	No	n/a	n/a	6.95	Erosion of natural deposits
Sulfate, mg/l	No	250.0	250.0	50.2	Erosion of natural deposits
Nitrate, mg/l	No	10.0	10.0	1.13	Runoff from fertilizer use
Combined Radium(226&228),pCi/l	No	0	5.0	0.9	Erosion of natural deposits

Well No. 8 (PO5)

Constituent & Unit Source	Violation	MCLG	MCL	Result	Potential Source
Iron, mg/l	No	0.3	0.3	1.91	Erosion of natural deposits
Manganese, mg/l	No	0.05	0.05	0.012	Erosion of natural deposits
Sodium, mg/l	No	n/a	n/a	7.10	Erosion of natural deposits
Sulfate, mg/l	No	250.0	250.0	53.6	Erosion of natural deposits
Combined Radium (226&228), pCi/l	No	0	5.0	3.5	Erosion of natural deposits
Combined Uranium, pCi/l	No	0	30	0.9	Erosion of natural deposits
Gross Alpha (excluding Radon And Uranium), pCi/l	No	0	15	8.2	Erosion of natural deposits
Gross Alpha (including Radon And Uranium), pCi/l	No	0	15	6.0	Erosion of natural deposits
Radium-228, pCi/l	No	n/a	2	1.1	Erosion of natural deposits

China Grove Source Water Assessment Program for China Grove: ID (01-80-040)

Source Name	Susceptibility Rating	SWAP Report Date
Well #3	Higher	February 2010
Well #7	Moderate	February 2010
Well #8	Moderate	February 2010

It is important to understand that a susceptibility rating of even “higher” does not imply poor water quality. Susceptibility is an indication of a water supply’s potential to become contaminated by identified potential contaminant sources within the assessment

Our Mission is to provide our customers with high quality water and wastewater services in addition to protecting the environment, promoting public health, improving the quality of life and maintaining the public trust.

El informe contiene información importante sobre la calidad del agua en su comunidad. Léelo o llame por teléfono a (704) 638-2168 para una traducción gratis.

- Concernimientos sobre la calidad de su agua?**  
Si usted nota un cambio en el sabor, olor o color de su agua, llame al (704) 638-5372 de 8:30am - 5:00 pm
- Cuenta/factura de agua o conexon de servicio?**  
Si tiene una pregunta sobre su cuenta/factura de agua o si su agua ha sido desconectada llame al (704) 638-5208
- Nuevo servicio / Conexion**  
Si acaba de trasladarse a una nueva casa y necesita servicio de agua llame al (704) 638-5208
- Emergencias y escape de agua, despues de las 5 pm**  
Si ve que hay agua que esta saliendo del piso, o poca presion de agua. En su casa u otros problemas que no pueden esperar hasta las horas regulares que son de 8:30 am – 5: 00 pm , llame al (704) 638-5339

Salisbury-Rowan Utilities (SRU) Contacts

**SRU Administration**  
1 Water Street | (704) 638-5205

**Water Plant Supervisor**  
Keith Bowersox | (704) 638-4480

**Water Quality Concerns**  
Water Lab | (704) 638-5372

**Water Bills & Service Reconnection**  
Customer Service | (704) 638-5300

**Line Leaks**  
Systems Maintenance | (704) 638-5390  
Emergencies (*after hours*) | (704) 638-5339

**New Service Connections**  
Development Services | (704) 638-5208

**Facility Tours, Civic Club & Class Room Presentations**  
Utility Administration | (704) 638-5205

City of Salisbury website  
[www.salisburync.gov](http://www.salisburync.gov)

2013 - DRINKING WATER QUALITY REPORT



Winner of the  
N.C. Area Wide  
Optimization Award  
For Surpassing Federal  
and State Drinking  
Water Standards

**Our Mission is CLEAR!**

System ID# 01-80-010



Salisbury-Rowan Utilities is pleased to present to you this year’s Annual Drinking Water Quality Report. This report is a snapshot of last year’s water quality. Included are details about your source water, what it contains, and how it compares to standards set by our regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information. For questions concerning the report or your water, please contact Alan Fowler, Chemist, Salisbury-Rowan Utilities – (704) 638-5372.

What EPA Wants You to Know

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Salisbury-Rowan Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn On Your Tap, Consider The Source

Salisbury – Rowan Utilities’ (SRU’s) intake is located on the Rowan – Davie - Davidson County line at the confluence of the South Yadkin River and the Yadkin River. The Yadkin Pee Dee River basin, which has a watershed classification of WS-IV, is the second largest river basin in NC, covering 7,213 square miles of which 50% is forested. Rain that falls on the eastern slopes of the Blue Ridge Mountains in Caldwell, Wilkes, and Surry Counties begins the flow to Salisbury and High Rock Lake. For more information on flow of the Yadkin River, the USGS web site is [www.usgs.org](http://www.usgs.org).

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for Salisbury-Rowan Utilities was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the table below:

Source Name	Susceptibility Rating	SWAP Report Date
YADKIN RIVER	Higher	March 2010

The complete Source Water Assessment Plan for the City of Salisbury can be viewed at: [www.ncwater.org/pws](http://www.ncwater.org/pws)

Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this Consumer Confidence Report was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634. To view or download the report, click on the “SWAP Reports” button on the lower right hand corner of the web page. To request a printed copy of the report, call (919) 707-9098 or email [SWAP@ncdenr.gov](mailto:SWAP@ncdenr.gov). Please include the following information when making the request:

PWS System Name & Identification Number
Contact Name
Address
Phone Number
<u>It is important to understand that a susceptibility rating of even “higher” does not imply poor water quality. Susceptibility is an indication of a water supply’s potential to become contaminated by identified potential contaminant sources within the assessment area.</u>

How Your Water Treatment Plant Works

The Salisbury-Rowan Utilities’ Water Treatment Plant uses a pretreatment process called *Actiflo*, which is a high-rate clarification unit. Salisbury treats an annual average of 8 million gallons of water per day (MGD). There is off stream storage of 28 MG if the Yadkin River should ever be unsuitable for drinking water. Micro-Sand, Polymer, and Poly-Aluminum Chloride are added to the raw water as it enters the pretreatment units to begin the coagulation process. After mixing, the solids are removed by the pretreatment process. The water is allowed to settle for up to 4 hours and then it is filtered. After filtration, Sodium Hypochlorite, Fluoride and Phosphate are added and the pH is adjusted using liquid lime. Fluoride is added to promote stronger teeth, and Phosphate helps to prevent pipe corrosion in the distribution system. Solids that are removed from the raw water are de-watered and eventually reapplied to farmland in Rowan County.

Facts & Figures

Salisbury-Rowan Utilities’ Water Treatment Division is required to test over 150 contaminants to make sure that the water you drink is safe. We are pleased to report that for the calendar year of 2013, the water delivered to your homes and businesses complied with all state and federal requirements. The following regulated contaminants were detected in our finished water as analyzed between January 1 and December 31, 2013

Constituent & Unit	MCLG	MCL	Salisbury Result	Potential Source
Fluoride, mg/l	4	4	0.71	Water additive which promotes strong teeth; erosion of natural deposits, discharge from fertilizer and aluminum factories.
Total Coliform Bacteria (presence or absence)	0	5% positive	0	Naturally present in the environment.
*Lead, ug/l *analyzed in 2011	0	AL=15	<0.003	Corrosion of household plumbing systems; erosion of natural deposits. 100% of the samples were below the action level of 15 ug/l.
*Copper, mg/l *analyzed in 2011	1.3	AL= 1.3	0.093	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. 100% were below the action level of 1.3 mg/l.

\*Customers were asked to sample water from a tap in their residence during the months of June, July, August and September, 2011. All samples were tested for lead and copper.

Constituent & Unit	MCLG	MCL	Salisbury Result	Potential Source
Turbidity, NTU	n/a	TT	<0.3	Soil runoff

Turbidity is a measure of the clarity of the sample and is caused by suspended material measured in NTUs. Many items contribute to this measurement such as silt, algae, and tiny organisms. Turbidity is used to measure the effectiveness of the water treatment process. NC reg-

ulations require continuous measurement on each filter at the water plant. The combined turbidity of all filters must be <0.3 NTU on 95% of the required measurements for each month. The highest turbidity in 2013 was 0.10 NTUs resulting in 100% compliance.

Constituent & Unit	MCLG	MCL	Salisbury Result	Potential Source
Total THM, ug/l	80	80	44.5 average	By-product of drinking water chlorination. Values ranged from 15 ug/l to 86 ug/l in the distribution system.
Total HAA5, ug/l	60	60	24.3 average	By-product of drinking water chlorination. Values ranged from 17.4 ug/l to 47.0 ug/l in the distribution system.

The fourth quarter of 2013, Salisbury-Rowan Utilities started monitoring under the Stage 2 Disinfection By-Product Rule, replacing the previous Stage 1 Disinfection By-Product Rule. The rule no longer requires a running annual average of all THM/HAA values, but a location-

al running annual average of these values. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Constituent & Unit	MCLG	MCL	Salisbury Result	Potential Source
Total TOC, mg/l	n/a	TT	1.18	Naturally present in the environment. Values ranged from 0.9 to 1.6.

Total Organic Carbon (TOC) provides a medium for the formation of disinfection byproducts (DBPs) including Total Trihalomethanes (TTHMs) and Total Haloacetic Acids (HAA5). SRU, in complying with requirements of the EPA Disinfectants & Disinfection Byproducts Rule – Stage 1 performed testing on paired samples of our “source” water and finished water for %

Total Organic Carbon (TOC) Removal. The Treatment Plant was able to remove between 18% and 57% with an average removal rate of 41.7 % during the 2013 calendar year meeting step 1 compliance. Required removal rate based on source water alkalinity and TOC was 35%.

In 2013, Salisbury-Rowan Utilities participated in a voluntary monitoring program, the Unregulated Contaminant Monitoring Rule 3 (UCMR 3). The results are outlined in the following table.

	1st Quarter (ug/l)		2nd Quarter (ug/l)		3rd Quarter (ug/l)		4th Quarter (ug/l)	
	Entry Point	MRT	Entry Point	MRT	Entry Point	MRT	Entry Point	MRT
Chlorate	115	123	105	113	ND	126	103	107
Hexavalent Chromium	ND	0.077	0.047	0.093	0.065	0.130	0.053	0.091
Total Chromium	ND	0.21	0.22	0.26	0.23	0.31	0.37	0.90
Total Strontium	38.2	46.9	44.1	48.5	34.3	45.5	48.3	52.2
Total Vanadium	0.30	0.42	0.81	0.72	0.67	0.73	0.24	0.47
1,4 Dioxane	9.2		ND		ND		ND	

Unregulated contaminants are those that don’t yet have a drinking water standard set by USEPA. The purpose of monitoring for these contaminants is to help EPA decide whether

the contaminants should have a standard.

Key to Unit Abbreviations		AL	Action Level: the concentration of a contaminant that triggers treatment or other requirements that a water system must follow. Action levels are reported at the 90th percentile for homes at greatest risk.
mg/l	Milligram per liter or parts per million. (One part per million or milligram per liter is like a single penny in \$10,000)	TT	Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.
ug/l	Micrograms per liter or parts per billion. (or a single penny in \$10,000,000)	NTU	Nephelometric Turbidity Units. Turbidity in excess of 5 NTU is just noticeable to the average person.
MCL	Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.	n/a	Information not applicable/not required for that particular water system or for that particular rule.
MCLG	Maximum Contaminant Level Goal: the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.	ND (Non-detects)	Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.
		MRT	Maximum Residence Time. Location in the distribution system where water age is the greatest.

Extra Note: MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters

of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Physical & Mineral Characteristics for the 2013 Calendar Year

The following constituents analyzed in your water are indicators of the appearance, taste and mineral content of the drinking water as the water leaves the water plant and is then delivered to your tap.

Inorganic Constituent & Unit of Measure	Annual Average
pH, standard units	7.0
Alkalinity, mg/l	18.6
Aluminum, mg/l	<0.01
Conductivity, micromhos/cm	115.7
Hardness, mg/l	25.9
Orthophosphate, mg/l	0.92
Sodium, mg/l	10.36
Manganese, mg/l	<0.001
Iron, mg/l	0.017
Fluoride, mg/l	0.71
Chlorine, mg/l	1.31

Distribution System

Each month, the distribution system is checked for water quality compliance. Samples are checked to maintain a 0.2 mg/l chlorine residual in the system. To ensure that bacteria and other harmful organisms are removed by physical processes and disinfection chemicals and no contamination has entered the system, samples are also checked for total coliform. All 2013 samples met compliance and were negative for total coliform.

Update on SRU Projects

Calendar year 2013 witnessed the completion of two significant projects that have been in the planning stages for several years. The Second Creek Wastewater Treatment Plant Elimination Project included the design, permitting and construction of a new lift station and force main that serves West Rowan Middle School and a neighboring industry. This project eliminated a discharge into Second Creek through the replacement and demolition of the existing package treatment plant, and was funded through a partnership with the Rowan Salisbury School System and Clean Water Management Trust Fund. The second project involved the first large-scale water meter replacement in recent history and took place in the Town of China Grove. During the months of November and December, 1,772 water meters were replaced by a contractor that specializes in mass meter change-outs. The new water meters replaced aging meters with increasing failure rates and multiple, incompatible reading systems.

SRU is also working to safeguard and protect the water supply and interests of all its customers through its participation in the Federal Energy Regulatory Commission (FERC) relicensing of Alcoa’s Yadkin (Hydropower) Project. SRU also protects its customers and their water supply during periods of drought by conducting regular monitoring of the water supply to track the flow and volume of the Yadkin River and by encouraging wise use of water. A copy of the water shortage response plan can be found on our webpage at <http://www.salisburync.gov/utilities/>.

SRU continues a proactive approach while working to ensure that our customers and communities will have a safe and plentiful supply of water both now and in the future!

